Wisconsin Urban & Community Forests

A Quarterly Newsletter of the Wisconsin Department of Natural Resources, Forestry Division

Low Impact Development:

A Decentralized, Ecosystem-based Approach to Stormwater Management

by Larry S. Coffman,
Associate Director of Programs and Planning
Dept. of Environmental Resources
Prince George's County, MD

Why a development/stormwater article in an urban forestry newsletter? Community tree management has evolved far beyond simply planting, maintaining and removing trees! Today, urban forestry is a highly integrated discipline with a comprehensive, ecosystem-based approach to managing vegetation for multiple benefits, including stormwater control.
—Editor

What if you could develop a site or retrofit an existing urban area and…maintain or restore the predevelopment hydrological regime…dramatically reduce non-point pollutant loads and water quality problems…preserve the ecological/biological integrity of receiving streams and waters…effectively engage property owners in pollution prevention…reduce stormwater infrastructure construction and maintenance costs…and reduce site development and urban retrofit costs? Well, you can—with Low Impact Development (LID) stormwater management "control at the source" technology!

LID is an innovative approach to stormwater management and ecosystem protection that integrates hydrologic controls into every aspect of site design to mimic the predevelopment hydrologic regime. It is not a growth management strategy nor does it rely heavily on density restrictions, rezoning, clustering or conservation measures. Instead, LID focuses on engineering the built environment to maintain ecosystem and hydrologic functions. LID uses new site planning and design principles and a wide array of micro-scale management practices. It is a powerful technology that allows development in a manner that preserves water related ecological functions and maintains development potential. The goal of LID is not to mitigate development impacts, but to recreate and preserve a watershed's hydrologic cycle. Further-

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"It is not a watershed that we are protecting, it is a complex ecosystem with functional interrelationships between the terrestrial and aquatic environment's living organisms, their physical surroundings and the natural cycling of water, nutrients and energy."

Photo by Larry Coffman

Bioretention is the most effective system known for removing pollutants from stormwater.

Inner-city Grant Projects Encouraged

The USDA Forest Service has provided Wisconsin with an additional $57,000 in funds to focus on inner-city urban forestry grant projects. These funds will be folded into our regular urban forestry grant program, but will be targeted for inner-city projects. For the purposes of this program, "innercity" refers to "the usually older and more densely populated residential section of a city (more than 1,000 persons per square mile) in which low income and minority groups predominate." Local governments and nonprofits are encouraged to take advantage of this opportunity. Applications have been mailed out and are due October 1, 2003. If you need an application package or more information, contact your regional urban forestry coordinator. (see p. 16).

WISCONSIN DEPT. OF NATURAL RESOURCES

Volume 11
Number 2

Summer 2003

Inside this issue:

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Community Profile:
Tree City USA: 2001 & 2002
Growth Award: 2002
Population: 7,400+
Town Road Miles: 78.18
Town Street Miles: 60+
Number of Parks: 6
Total Park Acreage: 118

Primary Industries:
Outagamie County Airport
Kimberly-Clark
School Specialty
Jansport
Convergys

Program Profile:
Staff: None (Nearly 100% of the work is done by volunteers. Some, like large tree planting, is contracted.)
Urban Forestry Board:
Bob Schroeder, Chair
Richard Roe, Vice-Chair
Keri Rose, Secretary
Steve Nagy, Founding Chair & Publicist
Bruce Carew
Steven Draws
Laura Heuer
Clarence Krause
Steve Paschke
Chris Schaefer
Shirley Schuette

Heavy Equipment:
tractor
backhoe

2002 Operating Budget:
$12,000

Community Profile:

Town of Greenville

by Stephen Nagy,
Founding Chair & Publicist
Greenville Urban Forestry Board

The town of Greenville, established in 1848, is nestled at the west edge of the Fox Cities and envelops the Outagamie County Airport. It has grown rapidly in recent years, from under 2000 in 1980 to approaching 8000 in 2003. This is the result of its appeal as both a great place to live and an attractive, progressive location for business.

Greenville's first settler, Matthew Culbertson, is chronicled to have arrived in Greenville in 1848 with his family from Scotland. Lacking an axe to clear the dense woods for his new farm, he embarked on a hike of 100 miles to buy one. His first stop was in Neenah, where he found the supply gone, then on to Oshkosh; finally he found one for sale in Fond du Lac.

Unfortunately, most of Greenville's trees are gone, having fallen victim to its settlers' need for tillable land. But four years ago, a group of volunteers organized Greenville's urban forestry program and began to turn the tide. Here's how they're doing it.

Glossy, Full-color Brochure

"We are in the first few years of a 100-year effort to transform Greenville," states Steve Nagy, founding chair of Greenville's urban forestry program, in Greenville's new full-color, glossy brochure. The brochure has been mailed to each household and is used at special events as a handout and as a volunteer recruitment tool.

Greenville—Special place, special people; the pride shows.

Speakers' Bureau

The color brochure accompanies a new video developed to support the new speakers' bureau. The bureau aggressively promotes urban forestry participation to residents as well as businesses, clubs, churches and other organizations.

The video highlights the many facets of Greenville's urban forestry initiatives and is available in VHS and DVD formats. A digital multi-media projector has been purchased to enable large-screen presentations by the speakers' bureau at promotional venues and special events.

Newsletter

A quarterly newsletter, illustrated with lots of short articles and photographs, describes the ongoing work of the board and volunteer participants. The newsletter is mailed to each household in the town and is effective in building support and turning out work parties.

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Contributors: Cindy Casey, Nathan Eisner, Don Kissinger, Tracy Salisbury, Kim Sebastian, Jessica Schmidt, John Van Ells

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Articles, news items, photos and ideas are welcome.

This newsletter is available in alternative format upon request.

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Project Profile:

Humboldt Park's Annual Tree Day

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by Kristina Skowronski
DNR Southeast Region

Increasing children's awareness about the benefits of trees and the importance of a healthy urban forest will be a significant help to professional tree managers down the road. And what better way to involve children than to host an event that benefits a local tree planting program? That is exactly what Humboldt Park has done for four years now, with the help of a partnership between Humboldt Park Watch, the Coalition of Bayview Schools and the Milwaukee County Parks Department. The Humboldt Park Annual Tree Day was developed to educate area children and to guarantee tree plantings in the park each year.

The daylong program, which involves 250 to 300 first, second and third graders from local schools, incorporates three individual learning stations for the children. After being broken up into groups, they get a chance to work on crafts such as leaf rubbings and pine cone owls. Then they watch a balled-and-burlapped or bare-root tree planting demonstration as well as a planting done with a tree spade done by Milwaukee County Parks employees. From there they are led on a tree walk where they get to see and ask questions on a variety of topics ranging from mushrooms to trees to the lilies in the pond. Teachers are also provided with a nature-related book list to use in the classroom.

While the children get to take home their rubbings and nature book list, Humboldt Park gets to enjoy the eight to ten new trees that are planted each year. The park, which is located on 72 acres on Milwaukee's south side, is 107 years old. Many trees are naturally senescing and the Park Watch group wants to see that new ones are planted to replace them. The partnership they formed with Milwaukee County Parks is a great way for the Park Watch group to provide a positive, beneficial community event while the park accrues all the benefits by having more trees planted annually. The Milwaukee County Parks Department plants the trees which are supplied from the county nursery, and follows up with the maintenance of the new trees.

For more information on how your community could host a similar event, contact Keith Kalberer, marketing director for Milwaukee County Parks, at 414-257-4575.

Milwaukee County parks

Gerald Thieme, Milwaukee County Parks Department employee, demonstrates a balled-and-burlapped tree planting to Bayview area schoolchildren during the 2001 Humboldt Park Tree Day.

Photos by Mark Drow, Milwaukee Co. Parks

Bayview area schoolchildren see how a Vermeer 60 tree spade works at the 2000 Humboldt Park Tree Day.

Low Impact Development

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more, as stormwater management systems are integrated into each property, property owners become more aware of the need for stormwater management and become more active and responsible for environmental protection. LID is more than a new approach to stormwater management—it is a new way of thinking, a new philosophy of stormwater management and ecosystem protection.

Comprehensive stormwater management is multifaceted and must address many objectives including runoff quantity and quality; ecosystem/water resource restoration; combined sewer overflow reduction; protection of endangered aquatic species; surface/groundwater recharge and source protection; maintaining wetland hydrology; and riparian buffer and stream protection. After more than 30 years of Best Management Practice mitigation technology, we now recognize significant technical, environmental and economic limitations of conventional BMPs in meeting these complex new watershed/ecological protection objectives. Communities with an extensive BMP stormwater management infrastructure also struggle with the high cost of maintenance, inspection enforcement and public outreach to support an ever expanding and aging centralized control infrastructure. Even more challenging is the exceptionally high cost of retrofitting existing development with conventional end-of-pipe practices to protect receiving waters.

Facing a growing burden of maintaining stormwater infrastructure and the limitations of conventional technology to meet new objectives, Prince George's County Department of Environmental Resources began exploring alternative stormwater management strategies in 1990. The development of bioretention, a.k.a. rain gardens—managing runoff within small landscaped depressions—led to the understanding of how to optimize and engineer developed landscapes to maintain and/or restore hydrologic function. In 1997, PGDER released the LID design manual of micro-scale source control principles and practices.

In stark contrast to the conventional flow-centric approach, LID manages stormwater by mimicking natural hydrologic functions (volume, frequency, recharge, evaporation and discharge). LID achieves hydrologic control in four ways. First, it minimizes impacts by reducing imperviousness, conserving natural resources, maintaining natural drainage courses, reducing use of pipes, and minimizing clearing and grading. Second, it recreates and disperses detention and retention storage with open swales, flatter slopes, rain gardens, rain barrels, etc. Third, it maintains or restores predevelopment concentration and travel time by strategically routing flows. Fourth, it uses public education and incentives to encourage property owners to adopt pollution prevention measures and site/landscape management practices. With LID, every site feature—vegetation, grading, streetscape, road, parking lot—is multifunctional and optimized to reduce stormwater impacts or provide/maintain beneficial hydrologic functions.

Photos by Larry Coffman

Functional street tree and shrub filters are one of many LID design features.

LID can significantly reduce the cost of managing stormwater. Savings are achieved by eliminating stormwater management ponds; reducing pipes, inlet structures, curbs and gutters; and reducing paving, grading and clearing. Where LID techniques are applicable and depending on the type of development and site constraints, stormwater and site development design, construction and maintenance costs can be reduced by 25 to 30 percent compared to conventional approaches.

LID's micro-scale management practices have led to the development of new tools to retrofit existing urban development. Management practices to recharge, filter, retain and detain runoff can be easily integrated into existing green space and streetscapes as part of the routine maintenance and repair of urban infrastructure. LID micro-scale techniques may reduce the cost of retrofitting existing urban development. Reducing costs will increase the ability of cities to implement effective retrofit programs and improve the quality of urban runoff to protect receiving waters.

In 1998, the US Environmental Protection Agency provided grant funding to help PGDER develop a general manual of LID principles and practices, and share this technology with other local governments throughout the nation. Efforts are underway with EPA to further advance LID technology by improving the sensitivity of analytical models for application with small watersheds and to develop new micro-scale control approaches for urban retrofit. Additional efforts will demonstrate how LID micro-scale management and multifunctional infrastructure principles and practices can be used to control highway runoff within existing rights-of-way.

The widespread distribution of the LID manual has created a storm of controversy and debate across the country and the world. LID's decentralized approach has challenged the principles, philosophy and efficacy of conventional, centralized BMP stormwater controls (end of pipe/pipe-and-pond controls). LID has not only exposed the limitations of conventional thinking and technology, but also demonstrates that we can develop without stormwater impact and that we do not have to settle for just mitigation of impacts but can achieve the full restoration of ecological functions.

The *Low Impact Development Manual* is available at the Prince George's County Web site, www.co.pg.md.us. (Go to Agencies–Environmental Resources–Programs and Planning–LID–Bioretention.)

Resources

For further information on vegetation and stormwater management, see "Urban Forestry Resources" on p.15.

Research Notes:

Public Response to the Urban Forest in Inner-city Business Districts

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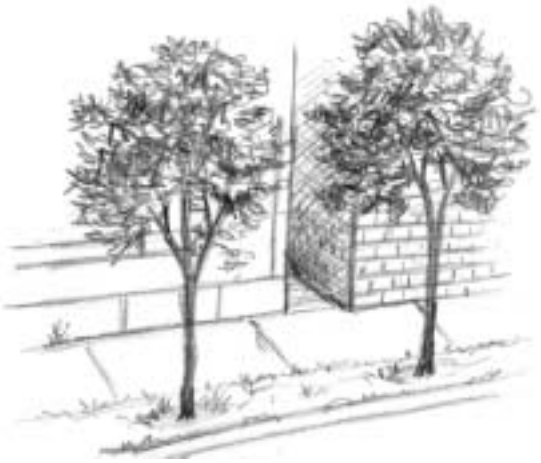
by Kathleen L. Wolf
College of Forest Resources
University of Washington

Urban trees provide few, if any, marketable products that generate direct returns on investment for businesses. Rather, indirect benefits are likely and are difficult to assess. Despite the environmental benefits provided by trees in cities, tree programs are often not a high priority for merchants in struggling business communities. A research project was conducted to evaluate the potential economic contributions of trees to retail settings in revitalizing business districts.

Revitalization programs are under way in many inner-city business districts. An urban forestry program can be an important element in creating an appealing consumer environment, yet it may not be considered a priority given that there are often many physical improvement needs. This research evaluated the role of trees in consumer/environmental interactions. A national survey evaluated public perceptions, patronage behavior intentions and product willingness to pay in relationship to varied presence of trees in retail streetscapes.

Survey outcomes suggest that trees are important components of a welcoming, appealing consumer environment. Results suggest that consumer behavior is positively correlated with streetscape greening. Research outcomes also establish a basis for partnerships with business communities regarding urban forest planning and management.

Reference: *Journal of Arboriculture 29(3):117–126*



Community Tree Profile:

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Amur corktree

(Phellodendron amurense)

by Laura G. Jull
Dept. of Horticulture
University of Wisconsin–Madison

Photo by Dick Rideout, WDNR

The corktree is named for its deeply furrowed, corky bark.

Native To: Northern China, Manchuria, Korea and Japan

Mature Height: 30' to 50'

Spread: 40' to 60'

Form: Broad-spreading, medium-sized tree with a rounded form and a short trunk with horizontal branches. Tree also has a wide-spreading root system.

Growth Rate: Slow when young, becoming moderate

Foliage: Leaves are pinnately compound, opposite, 10-15" long with 5-13 leaflets. Each leaflet is egg-shaped to elongated, $2^1/_2 - 4^1/_2$" long, with entire margins and a long tip at the end of the leaf

Buds and Stems: Solitary buds are 1/8" long, silky, with red or bronzed hairs and subpetiolar (buds completely enclosed by the base of the petiole). Stems are stout, orange-yellow to gray, changing to brown and have lots of lenticels. Raised leaf scars on stem are horseshoe-shaped, with the bud setting in the "U" portion of the leaf scar. Inner bark of younger stems is a bright yellowish-green.

Fall Color: Yellow to bronzy-yellow; leaves drop quickly

Flowers: Dioecious, yellowish-green, 5–8 sepals and petals, in 2"- to $3^1/_2$"-long panicles in early June, not showy

Fruit: On female trees only, round, green turning black, drupe borne in clusters, each fruit is 1/2" in diameter, fleshy, smell like turpentine when crushed, ripen in Oct.-Nov. Fruit persist, but create messy litter when they fall, stain sidewalks and readily reseed in the wild. Male trees have no fruit.

Bark: On younger trees, bark is smooth, becoming ridged and furrowed with age. Eventually the bark becomes thick, grey-brown with corky, deep furrows. The older bark feels and looks just like cork.

Requirements: Slow to establish, pH adaptable, drought and pollution tolerant but prefers a moist, well-drained soil; prefers full sun

Hardiness Zone: 3b to 7

Insect & Disease Problems: Usually free of pests

Suggested Applications: Amur corktree makes a nice, medium-sized, specimen shade tree with unique and interesting bark. It also makes a great park or large area tree.

Photo by Ed Hasselkus

The wide-spreading form of a mature corktree.

Limitations: Amur corktree has low, wide-spreading branches, which will require pruning for pedestrian and vehicular clearance if used as a street tree. Also needs pruning to space branches along the trunk. Female trees produce large amounts of fruit that can reseed in the wild or in your garden and make a litter problem. Not as heat tolerant as once described. Wide-spreading root system is shallow in the soil and makes it hard to grow grass underneath the tree.

Comments: Amur corktree is an excellent, medium-sized, ornamental tree for landscaping. Its unique bark when older is irresistible to touch. The long, sweeping branches are wide-spreading and hold the lacy-looking leaves. The tree has a strong oriental effect in the landscape. It also looks beautiful in the winter landscape. Plant only male trees, if possible.

Cultivars or Selections:
'Macho': male tree, no fruit, moderately spreading branches with a more upright form; thick, dark, leathery leaves; 40' tall.

'PNI 4551': Shademaster® Amur corktree, male tree, no fruit, spreading form, good branch structure, dark green foliage.

References:
Manual of Woody Landscape Plants: Their Identification, Ornamental Characteristics, Culture, Propagation and Uses, 5th ed. 1998, by Michael A. Dirr, Stipes Publishing, Champaign, IL.

North American Landscape Trees, 1996, by Arthur Lee Jacobson, Ten Speed Press, Berkeley, CA.

The Right Tree Handbook, 1991, by Harold Pellett, Nancy Rose and Mervin Eisel,University of Minnesota Extension Service, St.Paul, MN.

Trees for Urban and Suburban Landscapes, 1997, by Edward F. Gilman, Delmar Publishers, Albany, NY.

Urban Tree Health Matters:

Bacterial Wetwood and Slime Flux

7

by Jerry E. Weiland, M.S., Graduate Research Assistant
Glen R. Stanosz, Ph.D., Associate Professor
Department of Plant Pathology
University of Wisconsin–Madison

As summer approaches, patches of wet bark are often seen on the tree trunks and branches of elms, even during dry weather. Upon closer inspection, an oozing, fetid mass is usually observed dripping from old pruning wounds or from cracks in the bark. This slime flux is an indicator of the disease called bacterial wetwood. Bacterial wetwood is a chronic condition, so slime flux may recur for many years with limited effect on trees. However, slime flux can be aesthetically displeasing and more severe wetwood may negatively impact tree health.

Bacterial wetwood occurs throughout the continental United States and is particularly prevalent on numerous elm species including American, Siberian, Chinese and slippery elm. It is also found frequently on cottonwood and aspen. Other common hosts include maple, mulberry, oak and conifers such as fir, hemlock and white pine, although other tree species may be affected.

Several species of anaerobic bacteria (bacteria that do not require oxygen to survive) cause bacterial wetwood. Infection often occurs at pruning wounds or cracks in the tree bark. Bacteria present on tree bark or rain splashed from the soil and nearby diseased trees may be transferred to fresh wounds to initiate infection. However, some research suggests that infection may begin from contaminated seeds or through damaged roots. Once the bacteria have successfully colonized the xylem (water-conducting tissue of the tree), the wood becomes water-soaked and discolored in appearance (wetwood). Affected wood is often of inferior quality and displays less strength, frequent cracking and slowed drying properties. Interestingly, the anaerobic (without oxygen) conditions caused by water-soaking often prevent decay fungi from attacking the affected wood.

As the wetwood bacteria grow, they produce gases such as methane and carbon dioxide, which cause pressure to build up inside the tree. These gases, along with the presence of rancid fatty acids are responsible for the characteristic sour smell that is associated with the disease. The high gas pressure forces liquid out of the stem through wounds and results in the signs typical of slime flux. The liquid issuing forth from tree wounds is initially clear or light yellow and may be frothy from the release of

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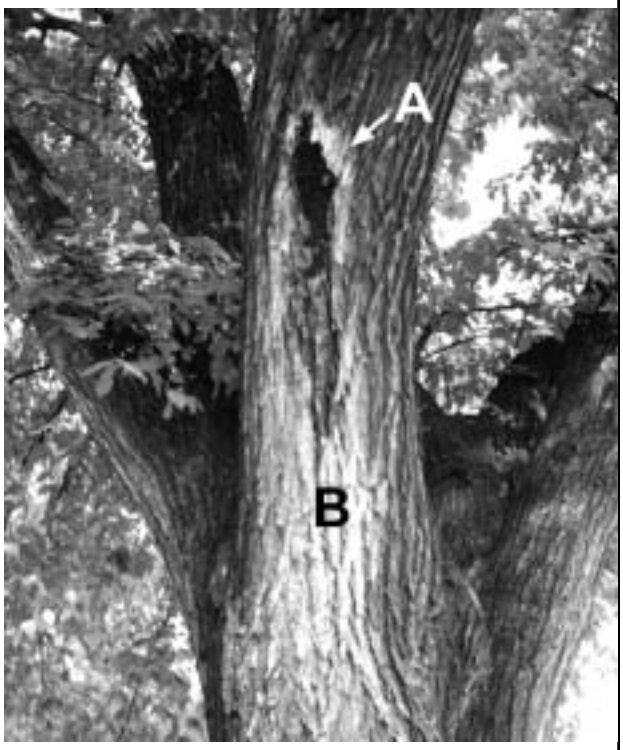

Photo by G. Stanosz, UW–Madison

Slime flux (A) from old wounds and light-colored or bleached appearance of bark (B) are indicators of the tree disease bacterial wetwood.

What Damaged This Tree?

Photo by Dan Traas, Ranger Services, Inc.

Turn to page 15 to find out...

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Ten Web Sites that Every Nonprofit Should Know About

Editor's note: This article was adapted from a posting on the Urban Natural Resources Network by Ami Dar, Executive Director, Action Without Borders, www.idealist.org. Listing here does not indicate endorsement by the Wisconsin DNR.

Every day at Idealist.org, we get e-mails and phone calls from nonprofit organizations seeking specific resources for their work. When we talk with them, we realize that many of the resources we take for granted are still unknown to many people. To try to do something about this, we've compiled a list of the 10 sites we think every nonprofit in the US should know about:

1. www.foundationcenter.org – The Foundation Center provides information about every foundation in the country. Much of this information is free, but some of it is for paying subscribers only.
2. www.guidestar.org – Guidestar lists financial information for 800,000 nonprofits. You can use Guidestar for research and you can also update your organization's entry there.
3. www.idealist.org – Idealist.org has built the leading nonprofit job site in the country. In addition to jobs, you can also list events, volunteer opportunities and internships; at www.idealist.org/consultants, you can find the most comprehensive directory of nonprofit consultants on the Web.
4. http://news.gilbert.org – Michael Gilbert maintains a great site with daily news updates bridging the on-line and nonprofit worlds. You can read the news there or you can subscribe for weekly e-mail updates.
5. www.nonprofitbasics.org – The Center for Philanthropy and Nonprofit Leadership is building a resource center with lots of great information for starting, running and funding an organization.
6. www.nonprofits.org/npofaq – Putnam Barber maintains the nonprofit FAQ – an older resource center that is special because it is based on actual questions and answers posted by nonprofit managers over the years.
7. www.networkforgood.org – People can find volunteer opportunities and they can also make donations to hundreds of thousands of nonprofits. You can use this site to add a free "donate" button to your Web site.
8. www.serviceleader.org – You will find a huge site covering every aspect of volunteer management, from screening, matching, record-keeping and evaluation, to legal issues, risk management and virtual volunteering.
9. www.techsoup.org – Techsoup has built the leading resource center for all issues related to nonprofit technology. In addition, they offer steep discounts on software for nonprofits, sometimes up to 90 percent off the list price.
10. www.volunteermatch.org – People can find volunteer opportunities all over the country by zip code or area of interest.

In addition to these 10 on-line resources, we recommend that people check out www.ncna.org/ and click on State Association Directory for the nonprofit state association closest to them.

Coming Events

September 17–20, 2003 — *National Urban Forestry Conference*, Adams Mark Hotel, San Antonio, TX. Contact Donna Tschiffely at 703-904-6932 or donna@amfor.org or visit www.americanforests.org/graytogreen/conference/.

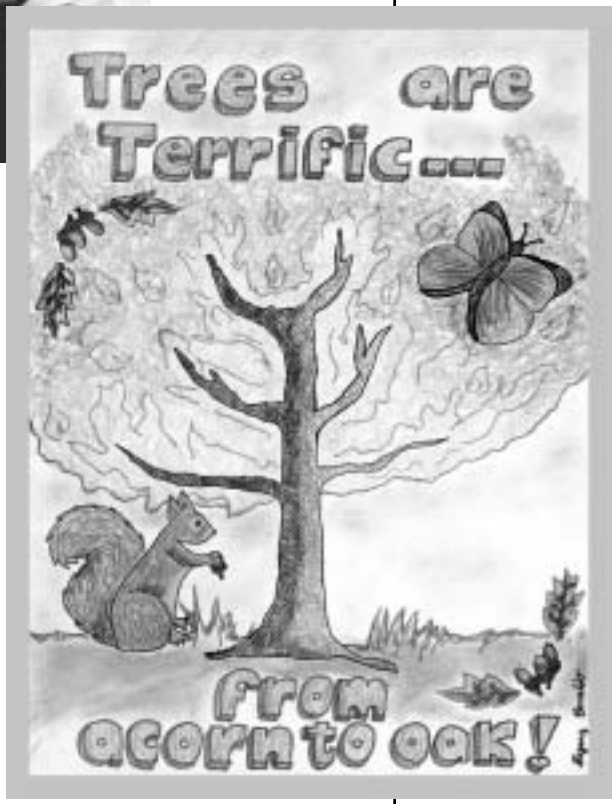
September 24–27, 2003 — *30th Natural Areas Conference* including the *Invasive Plant Symposium*, Monona Terrace Convention Center, Madison, WI. Contact Natural Areas Association, 541-317-0199, naa@natareas.org or www.naturalarea.org.

September 29–October 1, 2003 — *Building for Greener Communities National Conference*, Arbor Day Farm/Lied Conference Center, Nebraska City, NE. Contact the National Arbor Day Foundation at 402-474-5655, www.arborday.org/programs/Conferences.html or conferences@arborday.org.

Arbor Day Contest Winners

Photo by Bob Queen, WDNR

Wonderful memories for teachers and their students were made at the 2003 statewide Special Achievement Ceremony. This special ceremony, in celebration of the 131st anniversary of Arbor Day and the 120th year of its celebration by Wisconsin school children, honors the winners of the statewide Forest Appreciation Week Writing and the Fifth-Grade National Arbor Day Foundation Poster contests. From left to right (first row) Second Place poster, Taylor Burge, Alcott Elementary; First Place writing, Amanda Koch, Jefferson Elementary; First Place poster, Stefany Beraldo, Van Hise Elementary; Second Place writing, Maren Schutz, Washington Island School; Third Place, writing Todd Frydrych, Park Falls Elementary. Second row: Paul DeLong, Chief State Forester, Wisconsin DNR; Nancy Livingston, Wisconsin Woodland Owners Association; Jesse Ziemienski, Wisconsin Arborist Association and Kathy Swingen, Wisconsin Nursery Association. The Third Place poster contest winner, Natalie Lindquist, Our Lady of Peace Intermediate was unable to attend.



(Right) Wisconsin's 2003 Arbor Day Poster Contest First Place winner by Stefany Beraldo, Van Hise Elementary, Madison.

October 5–8, 2003 — *"Complete Urban Forest Management," Society of Municipal Arborists Annual Conference and Trade Show*, Santa Monica, CA. Contact SMA at urbanforestry@prodigy.net or 706-769-7412.

October 28, 2003 — *Wisconsin Arborist Association Fall Seminar*, Country Inn, Waukesha, WI. Contact Brian Cassity, 262-886-5224 or casitree@hotmail.com.

February 1–3, 2004 — *DNR Annual Urban Forestry Conference and Wisconsin Arborist Association Annual Conference and Trade Show*, Regency Suites and KI Convention Center, Green Bay, WI. Contact Brian Cassity, 262-886-5224 or casitree@hotmail.com.

If there is a meeting, conference, workshop or other event you would like listed here, please contact Dick Rideout at 608-267-0843 with the information.

Urban Forest Insect Pests:

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Ash Plant Bug

by John Kyhl
Regional Forest Pest Specialist
DNR Southeast Region

A common pest of true ash trees (*Fraxinus* spp.) throughout Wisconsin and the upper Midwest is the ash plant bug. They are so common that sometimes it is difficult to find ash trees without APB or their damage.

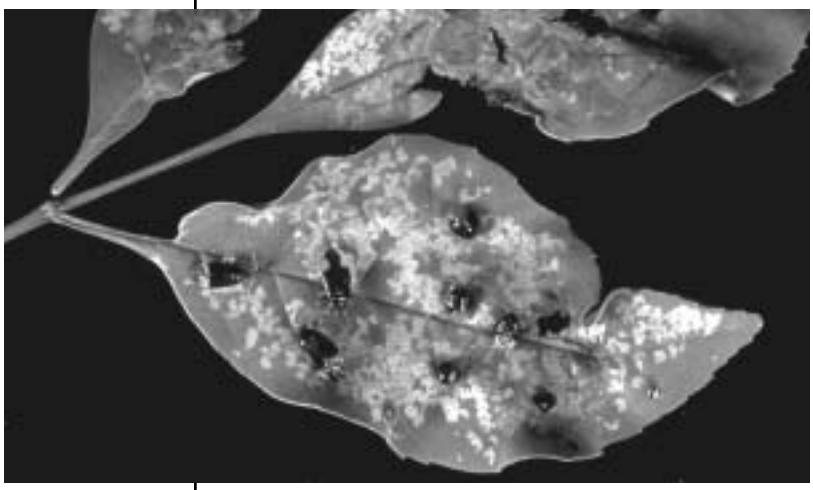

Photo by forestryimages.org

Ash plant bug in various stages of development and their damage.

Ash plant bugs are small (<1/4") and vary in color from pale yellow to brown to black, sometimes with lighter-colored markings. Immature APBs look very much like adults, but are smaller, wingless and often paler. As they feed, these insects insert their needle-like mouthparts into the leaf to suck out plant juices. Feeding leaves a distinct, small, circular discoloration that appears bleached out (see photo). If the feeding occurs as the leaves are expanding, it kills developing tissue and can result in a twisted, misshapen leaf. When feeding is heavy, hundreds of these small, dead areas coalesce, giving the leaf a mottled or blotchy appearance. In some cases, extensive feeding can lead to leaf or leaflet drop. Another clue to the presence of APB is seen when leaves are turned over—APB leaves dark, varnish-like excrement drops on the underside of the leaf. If you are lucky, you might see the insects trying to get away.

Fortunately, ash plant bug damage is seldom severe and isn't thought to kill trees. It can, however, contribute to twig dieback and poor form. For more information on this insect, refer to publication A3126 "Ash (*Fraxinus*) Disorder: Ash Plant Bug" from UW–Extension or view it on the Web at: http://cecommerce.uwex.edu/pdfs/A3126.PDF.

Bacterial Wetwood and Slime Flux

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gases. As it drips from the tree, other bacteria, yeasts and filamentous fungi colonize the liquid and contribute to the rancid smell. The liquid results in dark streaks on the tree trunk and branches and upon drying turns into a crusty, grayish mass. Bark altered by slime flux often has a lighter colored or bleached appearance, compared to normal bark.

The presence of slime flux appears to sometimes inhibit wound healing at the affected site, which may contribute to the chronic nature of wetwood. In severe cases, the disease may lead to wilting, leaf scorch and dieback of branches in the tops of trees. These symptoms may be confused with those of Dutch elm disease when present on elms, and when unsure whether slime flux is responsible for the condition, a plant health professional should be consulted.

Slime flux and the altered appearance of affected bark may be considered unattractive. To improve aesthetics, treatment is best limited to washing the bark with a strong blast of water from a hose. Unfortunately, after the disease develops, there are no other satisfactory control measures. Invasive practices such as drilling holes into the tree to relieve pressure and drain sap may allow entrance of wetwood bacteria and other pathogens into previously healthy tissues and are *not* recommended. Therefore, prevention may be the most effective means of bacterial wetwood control. Proper pruning techniques that minimize wound size and foster wound closure may be key in decreasing the occurrence of slime flux. In addition, prevent unnecessary wounding to the tree during construction or lawn maintenance. Finally, sterilize pruning tools between cuts to prevent transmitting the bacteria to healthy trees.

Town of Greenville

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Outdoor Classrooms

Three *Seed-to-Shade* nurseries have been established, one at each of Greenville's elementary schools. The nurseries provide outdoor classrooms for students, teachers and parent volunteers, and provide a supply of trees to transplant within the community.

Awards Program

Special efforts in urban forestry are appreciated and valued in Greenville. An annual awards program recognizes exceptional efforts in the planting and care of trees. Up to three recipients annually receive framed award certificates and are featured in the quarterly newsletter.

Historic Projects

The urban forestry board was delighted to discover that the first road built coast-to-coast across the US—the historic Yellowstone Trail—crossed Greenville. This road helped early travelers drive from Plymouth Rock to Puget Sound, as well as to points along the way. Kids and adults, farmers, neighbors and friends work together, having fun planting trees along the Yellowstone Trail.

Several other historic sites have been earmarked for tree planting and landscaping.

Investment That Beats the Stock Market

Members of Greenville's urban forestry board understand the many benefits provided by trees. Our message communicates at every opportunity that:

- trees play a vital role in restoring the air we breathe
- they provide shelter and sustenance to wildlife
- they provide us with endless visual delight, and
- they have the potential to soothe our souls

However, an important additional message promoted by the urban forestry program puts the value of trees in financial terms. It goes something like this:

Planting trees can beat the stock market—even in good times! Consider this: a two-cent seed will turn into a twenty-cent seedling in just a few weeks. In two years it can be a two-dollar transplant. That's a hundred-fold increase in value! But that's not the end of it! That two-dollar transplant can be a twenty-dollar tree in another two years. And, in a few more? Well, to buy a big tree in a nursery can easily cost hundreds of dollars. So, whether for pleasure or profit, it's hard to go wrong planting trees! It's one of the best ways to increase the value of property.

Greenville's urban forestry board stresses the value of trees for people.

Greenville's urban forestry accomplishments have been the result of an entirely volunteer effort.

Photos by Steve Nagy

Kids and parents work on tree identification during an urban forestry picnic.

Organization Profile:

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Invasive Plants Association of Wisconsin (IPAW)

compiled by Don Kissinger
DNR West Central Region

The Invasive Plants Association of Wisconsin is an organization comprised of agencies, organizations and individuals concerned with the spread of invasive plants and their impacts on natural ecosystems.

IPAW began in 2001at a Plants Out Of Place conference where a ground swell of support for such a group activated them. To date there are approximately 130 members whose mission is to promote better stewardship of the natural resources of Wisconsin by advancing the understanding of invasive plants and encouraging the control of their spread. The membership is made up of natural area managers, agronomists, horticulturists, foresters, wildlife biologists, etc. as well as non-scientific folks who just desire to make a difference in curtailing the spread of invasive plants.

To become a member there is a $20 individual or $100 organization/ agency fee. There are several active regional and county groups throughout the state that members may be directed to or work with along with IPAW's many sub-committees: Communications, Education, Science, Regional Groups, Government Relations, Plant Industry Relations and Fundraising.

In IPAW's short existence they have incorporated and gained 501(c)(3) nonprofit status, produced newsletters and have developed a Web site. The Web site gives information about the group's good works along with links to other invasive plant organizations and invasive plant listings from throughout the nation.

One of the projects IPAW is working on is in conjunction with the Great Lakes Indian Fish and Wildlife Commission. These two groups developed a survey, which they used to gather observations from people working in the field, on the presence and impact of invasive plants in the state. One of the immediate goals of IPAW is to develop working lists of invasive and potentially invasive plants of Wisconsin. Based on the working lists IPAW will advance other efforts, such as 1) developing educational materials and programs, 2) working to help formulate and influence public policy, 3) supporting and encouraging control and management, and 4) helping foster research on invasive plants and control practices.

To further IPAW's development of educational programming they are dovetailing with the 30th annual Natural Areas Conference being held in Madison, Wisconsin, September 24–27, 2003, by co-hosting an all-day Invasive Plants Symposium focusing on the identification, management and control techniques for invasive plants of the upper Midwest.

For more information about IPAW or what exactly an invasive plant is and what invasive species are currently in Wisconsin or how to become a member, visit the IPAW web site at www.IPAW.org, e-mail the group at info@ipaw.org or contact Nancy Braker at 608-251-8140.

Top 10 Wisconsin invasive plants from IPAW's working list, published March 2003:

- reed canary grass
- garlic mustard
- purple loosestrife
- common buckthorn
- Eurasian water milfoil
- glossy buckthorn
- honeysuckle (four types: Bell's, Tatarian, Morrow & Amur)
- common reed grass
- leafy spurge
- crown vetch

IPAW's invasive plant definition:
non-indigenous species or strains that become established in natural plant communities and wild areas, replacing native vegetation

The Idea Exchange...

compiled by Jessica Schmidt
DNR Northeast Region

9/11 Tree Memorial

Our City Forest—a nonprofit based in San José/ Silicon Valley, California—is just about to complete the planting of 3032+ 15-gallon shade trees throughout the San José area's streets and schools. One tree has been planted for each victim of the terrorist attack on America. On each tree, volunteers hung a laminated strip tag with the photo, name and hometown of a victim. The plantings started right after 9/11 and will continue until April. Each tree has a steward that has signed a three-year agreement to take care of the tree and monitor its condition over that three-year period (by responding to tree health survey forms). Our City Forest plans to have a special celebration when the final tree is planted in this effort.

Info: Rhonda Berry at rberry@ourcityforest.org.

Grants Available for Urban Forestry Training

Wisconsin DNR urban forestry grants can be a great opportunity to send staff, volunteers or tree board members to urban forestry training. There are numerous training opportunities throughout Wisconsin and the United States. These are a 50/50 match grant with a maximum of $25,000 in state share available to any particular project. The funds can be used to cover registration fees and travel expenses (i.e., transportation, lodging, meals). Match can often come from the salary of the employees while attending the training on work time. The individuals who attend the training can bring valuable information, skills and innovative ideas back to your municipality or organization. Cities, villages, towns, counties, tribal governments and 501(c)(3) nonprofit organizations are eligible for these grants. Other urban forestry related activities such as: developing urban forestry management plans, training materials or brochures; conducting inventories or workshops; and planting, removing or pruning trees are also eligible for funding.

Info: www.dnr.state.wi.us/org/land/forestry/UF/grants/index.htm.

Correction

In the last issue of this newsletter, the Idea Exchange item on "Treekeepers" listed the wrong contact number. The correct phone number for Michelle Johnson at Forest ReLeaf of Missouri should be: 888-473-5323.

Does your community or organization have an idea, project or information that may be beneficial to others? Please let your regional urban forestry coordinator know. We will print as many of these as we can. If you see ideas you like here, give the contact person a call. They may be able to help you in your urban forestry efforts.

CPSC Recalls Chain Saws

The Consumer Product Safety Commission has issued a recall of 6,900 chain saws manufactured by Homelite Consumer Products, Inc., of Anderson, South Carolina.

These saws can operate while the engine is at the "idle" setting, posing a risk of serious lacerations to the operator and bystanders. No incidents or injuries have been reported.

These Homelite brand chain saws have model number UT10946 and manufacture dates of 11-02 (November 2002) or 12-02 (December 2002). The model numbers and manufacture dates are printed on the lower corners of a black data label located on back side of the chain saw's engine housing, opposite the on/off trigger. They have a red housing with black trim and are sold in a rectangular black plastic case. They were sold at home and hardware stores nationwide from December 2002 through February 2003 for about $200.

Call Homelite at 800-776-5191 between 8 AM and 5 PM Eastern Time, Monday through Friday, or visit the firm's Web site at www.homelite.com to find the nearest Homelite-authorized service center for a free throttle adjustment. The stores where these chain saws were purchased do not provide this service.

To see a picture of the recalled product, use this link: www.cpsc.gov/cpscpub/prerel/prhtml03/03124.html.

Council News:

What's up at the Council?

by Jeff Edgar, Chair
Wisconsin Urban Forestry Council

A few months ago, on March 27th, hundreds of city, county, state, utility officials and volunteers met at Monona Terrace in Madison to celebrate the Tree City and Tree Line USA award winners. The whole program went off without a hitch. The Urban Forestry Council, DNR urban forestry staff, and the many volunteers should be proud of the evening's accomplishments. Take a look at the photos on this page to get a flavor of the evening.

So now that is over, what will we do for an encore? Our May and July meetings will focus on the "Wisconsin and Urban Community Forestry Plan," which is a report that most of you may not be familiar with. This paper defines the current state and the desired state of the urban forest in Wisconsin. Within the report there is a list of seven goals which can make our urban forest a better place for all, what has to be done to achieve those goals and who is best suited to the identified tasks. There are several areas where the urban forestry council can help, or lead, in order to make these various goals a reality. The council will be meeting to discuss where we best fit in the process. Hopefully this project will better define the council's role in the future of urban forestry in Wisconsin.

Personally, I just want to say this has been a very busy spring for me. I am spending more time in the fields, helping with the harvesting, shipping and planting operations at my company, than I have in past years. While I sat at the Tree City USA banquet, I kept thinking where I would be the next day. From a suit to muddy clothes, from a relaxed meal with friends and associates to aching muscles and a sandwich from a bag. March 27 was truly a night to remember. I'm sure you folks will be hearing about this until the next Tree City USA celebration. By the way, Wisconsin ranks first (tied with Texas) in Tree Line USA awards. Just to let you know—those municipalities that didn't receive an award—we aren't that far behind Illinois, to take second place in Tree City USA awards. We do have a way to go before beating Ohio for first place, but according to a well connected source (who asked to remain anonymous), everyone knows that Buckeyes are just a bunch of nuts anyway.

With that, it's back to work, and I hope to see you soon!

Council Chair Jeff Edgar

Photo by Silver Creek Nurseries

Photos by Don Kissinger, WDNR

Images of the 2003 Tree City USA Celebration

Urban Forestry Resources:

Managing Stormwater with Vegetation

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compiled by Cindy Casey
DNR West Central Region

Stormwater Management Resources on the Web

Center for Watershed Protection

www.cwp.org

The center specializes in training local governments to incorporate simple "best management practices" for stormwater management. The site includes various manuals and materials.

Stormwater Manager's Resource Center

www.stormwatercenter.net

This Web site includes a number of slide shows, with illustrations and photos of design techniques. Good information for engineers.

National Resources Defense Council Stormwater Strategies Manual

www.nrdc.org/water/pollution/storm/stoinx.asp

Contents of the manual include Low Impact Development runoff control, case studies, fact sheets, etc.

Growing Greener in Your Rappahannock River Watershed

http://for.communitypoint.org/pages/grogreen.html

This comprehensive, green-development manual is on-line at the Friends of the Rappahannock Web site. The manual includes numerous case studies.

Stormwater magazine

www.forester.net/sw.html

Forester Publications produces this on-line stormwater mitigation magazine seven times a year. Of particular interest is a recent issue dealing specifically with trees, www.forester.net/sw_0203_trees.html.

Community Resources

www.communityresources.org/greenroof.html

Community Resources is a nonprofit organization that promotes community stewardship to restore urban environments. Green rooftops are among their initiatives.

Roofscapes, Inc.

www.roofmeadow.com

Another Web site for those interested in the concept of green rooftops as a runoff management system.

Green Roofs for Healthy Cities

www.greenroofs.ca./grhcc/index.html

Includes answers to some common rooftop-garden installation questions.

Virginia Department of Forestry

http://state.vipnet.org/dof/rfb/riparianrain_gardens.htm

This VDF page describes and uses photos to show the concept of rain gardens (bio-retention).

Friends of Bassett Creek

www.mninter.net/~stack/bassett/gardens.html

This is a rain-garden page from a Minneapolis-based neighborhood organization, with suggestions for species choices and links to many other rain garden resources.

University of Wisconsin–Extension

http://clean-water.uwex.edu/pubs/raingarden/index.html

From this page, the user can click on a downloadable (.pdf format) fact sheet, "Rain Gardens: A Household Way to Improve Water Quality in Your Community." This 8-page "how-to" is for installing rain gardens on residential property.

From page 7.

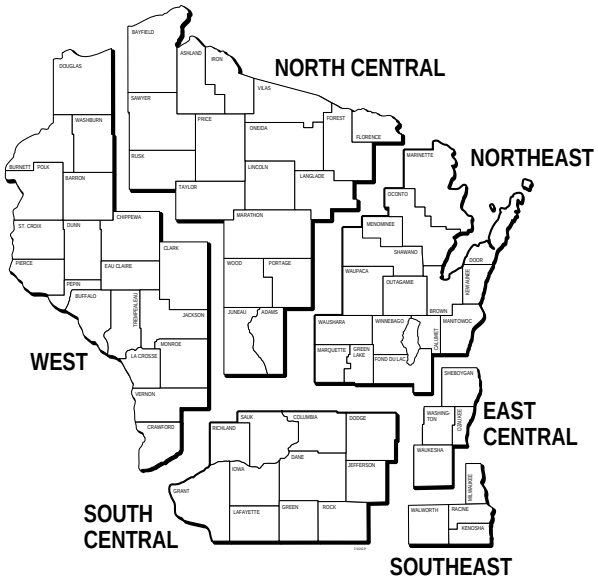
What Damaged This Tree?

Answer: A bear. Gnawing and claw marks on trees are indicators of bear inhabitants. Some of these claw marks are made when the bears climb the trees, but they make others when standing on their hind feet and reaching up to claw. These clawed trees are sometimes called "measuring trees."

This information came from *Mammals of Wisconsin*, by Hartley H.T. Jackson.

Do you have pictures of tree damage others ought to know about? Send them to Kim Sebastian (address on page 16) and we'll print them here!

Wisconsin DNR Urban and Community Forestry Contacts



World Wide Web Site: www.dnr.state.wi.us/org/land/forestry/uf/

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